

Appl. Serial No.: 10/678,610
Amendment dated August 18, 2005
Reply to Office action of March 21, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A Potter-Bucky device for being positioned in a radiation image recording apparatus for exposing an image recording medium to radiation which has passed in a first plane through an object to the recording medium in order to record a radiation image of the object on the recording medium, comprising:

a grid movably supported for reciprocating motion in a second plane extending parallel to the recording medium between the object and the recording medium, wherein the grid is movable along an axis lying in the second plane;

at least one movable cam positioned adjacent the grid and causing reciprocating movement of the grid along the axis in the second plane parallel to the recording medium upon movement of the cam; and

a counter-weight movably supported and operatively connected to the grid for reciprocating motion in the second plane along the axis in directions opposite the grid, wherein displacement of the center of gravity of the Potter-Bucky device due to movement of the grid is compensated for by the movement and mass of the counter-weight so as to prevent substantial vibration being transmitted from such movement to the radiation image recording apparatus.

2. (Original) A Potter-Bucky device as claimed in claim 1, wherein a mass of the grid is substantially equal to a mass of the counter-weight.

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3. (Original) A Potter-Bucky device as claimed in claim 2, wherein an inertia of the grid is equal to an inertia of the counter-weight during reciprocating motion.
4. (Original) A Potter-Bucky device as claimed in claim 1, further comprising a motor operatively connected to the cam for causing movement of the cam adjacent the grid.
5. (Original) A Potter-Bucky device as claimed in claim 1, wherein the cam is positioned between the grid and the counter-weight.
6. (Original) A Potter-Bucky device as claimed in claim 1, further comprising at least one spring biasing the grid against the cam.
7. (Original) A Potter-Bucky device as claimed in claim 6, wherein the spring comprises a tension spring connected between the grid and the counter-weight and biasing the grid and the counter-weight against the cam.
8. (Original) A Potter-Bucky device as claimed in claim 6, wherein the spring comprises a compression spring, and the grid is positioned between the spring and the cam.
9. (Original) A Potter-Bucky device as claimed in claim 8, further comprising a second compression spring, and the counter-weight is positioned between the second compression spring and the cam.
10. (Original) A Potter-Bucky device as claimed in claim 1, wherein the cam is rotatable.
11. (Original) A Potter-Bucky device as claimed in claim 10, wherein the cam is elliptical.
12. (Original) A Potter-Bucky device as claimed in claim 1, wherein the grid is

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movably supported by linear bearings.

13. (Currently amended) A method for moving a grid in a Potter-Bucky device, comprising:

movably supporting the grid for reciprocating motion along an axis in a plane;

positioning at least one movable cam adjacent the grid;

moving the cam to cause reciprocating movement of the grid along the axis in the plane; and

attaching a counter-weight to the grid for reciprocating motion along the axis in the plane in directions opposite the grid, wherein displacement of the center of gravity of the Potter-Bucky device due to movement of the grid is compensated for by the movement and mass of the counter-weight so as to prevent substantial vibration being transmitted from such movement to the radiation image recording apparatus.

14. (Original) A method according to claim 13, wherein a mass of the grid is substantially equal to a mass of the counter-weight.

15. (Original) A method according to claim 13, wherein an inertia of the grid is equal to an inertia of the counter-weight during reciprocating motion.

16. (Original) A method according to claim 13, wherein the cam is positioned between the grid and the counter-weight.

17. (Original) A method according to claim 13, further comprising biasing the grid against the cam.

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18. (Original) A method according to claim 13, further comprising biasing the counter-weight against the cam.

19. (Original) A method according to claim 13, wherein the cam is rotated.

20. (Original) A method according to claim 13, wherein the cam is elliptical.

21. (Currently amended) A Potter-Bucky device, comprising:

a frame;

tracks secured to the frame;

a first set of brackets slidably received in the tracks for supporting a grid;

a grid secured to the first set of brackets;

a second set of brackets slidably received in the tracks;

a counter-weight secured to the second set of brackets;

wherein the grid and the counter-weight are adapted, positioned and oriented for reciprocating motion along a shared axis in a plane;

a drive pulley and an idler pulley secured to the frame; and

a continuous belt extending around the drive pulley and the idler pulley such that the belt include first and second portions which move in opposite directions in the plane between the pulleys upon rotation of the drive pulley;

wherein the first set of brackets is secured to the first portion of the continuous belt and the counter-weight is secured to the second portion of the continuous belt so that the grid

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and the counter-weight move in opposite directions along the shared axis in the plane when the drive pulley is rotated, wherein displacement of the center of gravity of the Potter-Bucky device due to movement of the grid is compensated for by the movement and mass of the counter-weight so as to prevent substantial vibration being transmitted from such movement to the radiation image recording apparatus.

22. (Canceled)

23. (Currently amended) A Potter-Bucky device as claimed in claim 22 21, wherein a mass of the grid is substantially equal to a mass of the counter-weight.

24. (Currently amended) A Potter-Bucky device as claimed in claim 22 21, wherein an inertia of the grid is equal to an inertia of the counter-weight during reciprocating motion.

25. (Currently amended) A Potter-Bucky device as claimed in claim 22 21, further comprising a reversible motor operatively connected to the drive pulley.